WHAT IS CLAIMED IS:

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1. A semiconductor laser device including:

a semiconductor laser chip; and

a molded resin having a light diffusion capability,

wherein the semiconductor laser chip is covered with the molded resin.

2. A semiconductor laser device according to claim 1, wherein the semiconductor laser chip does not directly contact the molded resin.

3. A semiconductor laser device according to claim 1 further includes a light diffusion plate provided between the semiconductor laser chip and the molded resin.

4. A semiconductor laser device according to claim 1, wherein the semiconductor laser chip includes a plurality of light emitting portions.

5. A semiconductor laser device according to claim 1, wherein the semiconductor laser chip includes at least one light emitting portion having a width of about 7 μm

or more.

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6. A semiconductor laser device according to claim 1 further includes at least one additional semiconductor laser chip.

7. A semiconductor laser device according to claim 4, wherein the spot size and radiation angle of an emitted light beam can be controlled by adjusting the intervals between each light emitting portion of the semiconductor laser chip including the plurality of light emitting portions, and the size, material, and shape of the molded resin.

8. A semiconductor laser device according to claim 5, wherein the spot size and radiation angle of an emitted light beam can be controlled by adjusting the width of the light emitting portion of the semiconductor laser chip including the light emitting portion having a width of about 7 μm or more, and the size, material, and dimension of the molded resin.

9. A semiconductor laser device according to claim 6, wherein the spot size and radiation angle of an emitted

between the semiconductor laser chips, and the size, material, and dimension of the molded resin.

10. A semiconductor laser device according to claim 1, wherein materials having different refractive indexes are mixed into the molded resin.

11. A semiconductor laser device according to claim 10, wherein the materials include a transparent epoxy resin and a silica resin.

12. A semiconductor laser device according to claim 1 further includes a container for containing the semiconductor laser device, wherein the thermal resistance of the container is about 150 deg/W or less.

13. A semiconductor laser device according to claim 12, wherein the thermal resistance of the container is about 100 deg/W or less.

14. A semiconductor laser device according to claim 4, wherein the plurality of light emitting portions of the semiconductor laser chip emit light beams having the same wavelength.

15. A semiconductor laser device according to claim 6, wherein the semiconductor laser chips emit light beams having the same wavelength.

16. A semiconductor laser device according to claim 4, wherein at least two of the plurality of light emitting portions of the semiconductor laser chip emit light beams having different wavelengths.

17. A semiconductor laser device according to claim 6, wherein at least two of the semiconductor laser chips emit light beams having different wavelengths.

18. A semiconductor laser device according to claim 1, wherein the wavelength of a light beam emitted by the semiconductor laser chip is selected from a wavelength band of about 760 nm or more to about 1.5 μm or less.

19. A semiconductor laser device according to claim 18, wherein the wavelength of a light beam emitted by the semiconductor laser chip is selected from the vicinity of any of about 900 nm, about 1.1 μm, and about 1.4 μm.

20. A semiconductor laser device according to claim 6, wherein the semiconductor laser chips are arranged in parallel.

21. An optical transmission device, wherein a semiconductor laser device according to claim 1 is used as a light source.

22. An optical transmission device according to claim 21, wherein a light beam is transmitted via a space, or a light beam is transmitted via an optical fiber as a transmission path.

23. An optical transmission device including:

a light emitting element capable of emitting light beams having different wavelengths; and

a light receiving element capable of selectively receiving the light beams having different wavelengths,

wherein a semiconductor laser device according to claim 1 is used as the light emitting element.

24. An optical transmission device including:

a light emitting element capable of emitting light beams having different wavelengths; and

a first light receiving element capable of selectively receiving the light beams having different wavelengths,

wherein transmission of the light emitting element and reception of the first light receiving element are simultaneously performed.

25. An optical transmission device according to claim 24, wherein the wavelength of a light beam received by the first light receiving element is determined, and the light emitting element emits a light beam having a wavelength other than the wavelength of the light beam received by the first light receiving element.

26. An optical transmission device according to claim 24 further including:

a second light receiving element capable of selectively receiving the light beams having different wavelengths,

wherein the first light receiving element is covered with a first molded resin, and the second light receiving element is covered with a second molded resin; and

the range of the wavelength of a light beam transmitting through the first molded resin does not

overlap the range of the wavelength of a light beam transmitting through the second molded resin.

27. An optical transmission device according to claim 24 further including:

a second light receiving element capable of selectively receiving the light beams having different wavelengths,

wherein a first wavelength filter is provided on the first light receiving element, and a second wavelength filter is provided on the second light receiving element; and

the range of the wavelength of a light beam transmitting through the first molded resin does not overlap the range of the wavelength of a light beam transmitting through the second molded resin.

28. An optical transmission device according to claim 27, wherein the range of the wavelength of a light beam transmitting through the first wavelength filter is greater than or equal to a specific wavelength, and the range of the wavelength of a light beam transmitting through the second wavelength filter is less than or equal to the specific wavelength.

29. An optical transmission device according to claim 27, wherein at least one of the wavelength filters is a band pass filter.

30. An optical transmission device according to claim 24, wherein the light emitting element includes a plurality of semiconductor laser chips.

31. An optical transmission device according to claim 24, wherein the light emitting element includes a multi-wavelength laser element.

32. An optical transmission device according to claim 24, wherein the plurality of wavelengths of light beams emitted by the light emitting element correspond to the plurality of wavelengths of light beams which are received by the first light receiving element.

33. An optical transmission device according to claim 24 further including:

a second light receiving element capable of selectively receiving the light beams having different wavelengths,

wherein the wavelength range of the photosensitivity of the first light receiving element does not overlap the wavelength range of the photosensitivity of the second light receiving element.

34. An optical transmission device according to claim 33, wherein the wavelength range of the photosensitivity of the first light receiving element is greater than or equal to a specific wavelength, and the wavelength range of the photosensitivity of the second light receiving element is less than or equal to the specific wavelength.

35. An optical transmission system including:

a plurality of optical transmission devices according to claim 23.

36. An optical transmission system according to claim 35, wherein among the plurality of optical transmission devices, a light beam is transmitted via a space, or a light beam is transmitted via an optical fiber as a transmission path.

37. An optical transmission system including:

a plurality of optical transmission devices

according to claim 24.

38. An optical transmission system according to claim 37, wherein among the plurality of optical transmission devices, a light beam is transmitted via a space, or a light beam is transmitted via an optical fiber as a transmission path.

39. An electronic device including:

a semiconductor laser device according to claim 1.

40. An electronic device including:

an optical transmission device according to claim 21.

41. An electronic device including:

an optical transmission device according to claim 22.

42. An electronic device including:

an optical transmission device according to claim 24.

43. A control device including:

a light detection section for receiving an output of a light receiving section receiving a light beam, and detecting a light reception state of the light receiving section;

a determination section for determining whether the light receiving section is ready to receive the light beam based on an output of the light detection section;

a demodulation section for demodulating the light beam to obtain received data, when the light receiving section is ready to receive the light beam; and

a selection section for automatically selecting a wavelength different from the wavelength of the light beam and outputting information on the selected wavelength to a light emitting section.

44. A control device according to claim 43, wherein the determination section includes a reception detection select circuit for controlling the light receiving section so that the light receiving section does not receive a light beam emitted by the light emitting section.

45. A communication device including:

a light emitting element capable of emitting light beams having a plurality of different wavelengths;

a light receiving element capable of selectively receiving the light beam having each wavelength; and

a control device according to claim 43,

wherein a semiconductor laser device including a semiconductor chip, and a molded resin for covering the semiconductor laser chip, having a light diffusion capability is used as the light emitting element.

46. A communication device according to claim 45, wherein the determination section includes a reception detection select circuit for controlling the light receiving section so that the light receiving section does not receive a light beam emitted by the light emitting section.

47. A communication device according to claim 45, wherein the control device having a protocol wherein the control device controls the light emitting element so that the light emitting element transmits a light beam having a wavelength different from a wavelength detected by the light receiving element; connection is established after verifying that the wavelength of a light beam emitted by

the light emitting element is different from the wavelength of a light beam received by the light receiving element.

48. A communication device according to claim 47, wherein the control device having a protocol wherein the control device sets a random waiting time to avoid collision of connection establishments when the light emitting element emits a light beam having a wavelength and thereafter the light receiving element receives a light beam having the wavelength.

49. A connector including:

a cylinder having opposite ends;

a light receiving element provided inside the cylinder, for selectively receiving light beams having a plurality of different wavelengths.

50. A connector according to claim 49, wherein the light receiving element is provided on an inner surface of a wall of the cylinder.

51. An optical transmission method for transmitting and receiving a light beam using an optical transmission

device including a light emitting element capable of emitting light beams having a plurality of different wavelengths and a light receiving element capable of selectively receiving a light beam having each wavelength, the method including the steps of:

automatically determining a wavelength of a light beam received by the light receiving element among light beams having the plurality of wavelengths which the light receiving element can receive; and

selecting a light beam having a wavelength different from the wavelength of a light beam received by the light receiving element and transmitting the selected light beam.

52. A data transmission and reception method including the steps of:

emitting a light beam having a first wavelength as a transmission request signal to a second terminal, using a first terminal;

verifying the transmission request signal using the second terminal when the second terminal receives the light beam having the first wavelength;

emitting a light beam having a second wavelength as a reception response signal to the first terminal,

using the second terminal;

verifying the reception response signal using the first terminal when the first terminal receives the light beam having the second wavelength,

wherein based on the verifying the reception response signal, the first terminal and the second terminal simultaneously perform transmission and reception using the light beam having the first wavelength and the light beam having the second wavelength.

53. A data transmission and reception method according to claim 52, wherein at least one of the first and second terminals is adapted not to detect a light beam having a wavelength emitted by the at least one of the first and second terminals for a predetermined period of time.

54. A data transmission and reception method according to claim 53, wherein the predetermined period of time is randomly changed.